DECEMBER 1950

FIREMEN

FIFTY-FIFTH YEAR · NATIONAL FIRE PROTECTION ASSOCIATION

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Only John BEAN can guarantee disaster-proof plant protection!

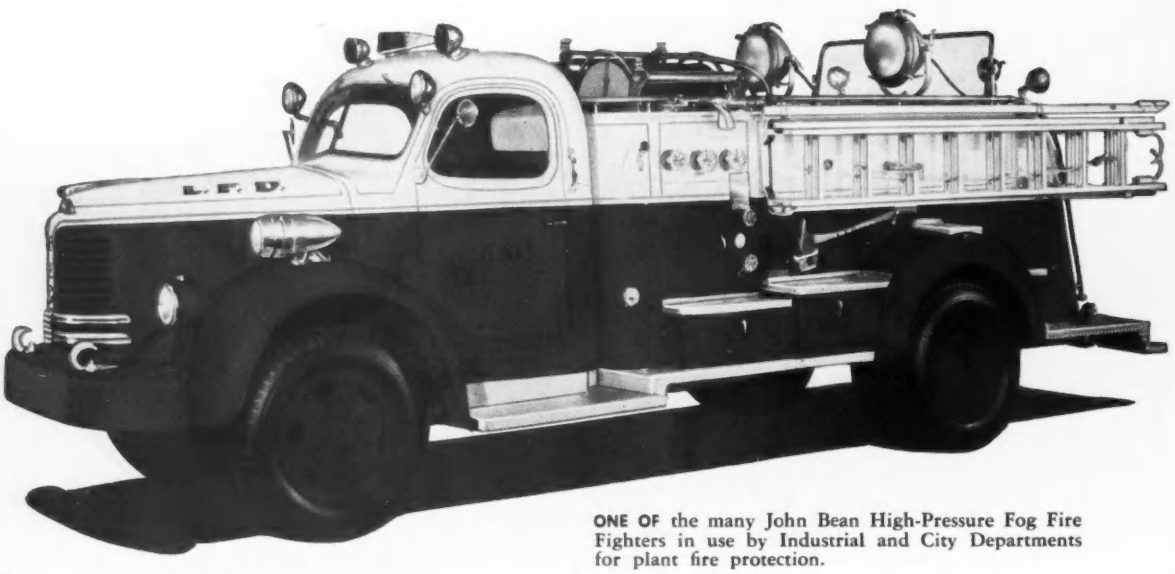
INDUSTRIAL plants with special fire hazards need fire-fighting equipment that goes into action fast, puts out fires quickly and is independent of the municipal water supply.

John Bean—*and only John Bean*—meets every one of these exacting requirements. Here's why only this remarkable fire-fighting equipment can guarantee disaster-proof plant protection:

Bean High-Pressure Fog Fire Fighters carry their own water supply! They go into action instantaneously because no time is lost laying hose. And because they carry their own water supply, *Bean Fire Fighters offer the only fire protection in case air attack knocks out the water supply!*

In action, Bean High-Pressure Fog absorbs heat instantly. Fires are put out faster, and water damage is practically eliminated.

Take definite steps now to protect industrial plants. Write for complete information about John Bean High-Pressure Fog Fire Fighters—the only disaster-proof plant protection available anywhere!



ONE OF the many John Bean High-Pressure Fog Fire Fighters in use by Industrial and City Departments for plant fire protection.

BEAN *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

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BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

introduces . . .

AN IMPROVED

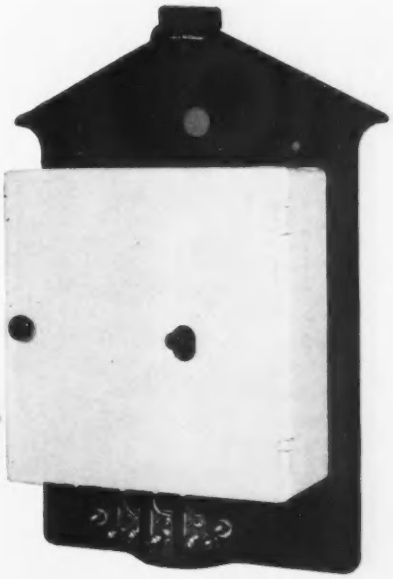
FIRE ALARM BOX

THREE-FOLD TYPE

. . . now in production

New Standard Gamewell Fire Alarm Box, Three-Fold Type. The reflecting "Fire" signs on the boxes contribute to speed in sending alarms.

At right is shown the inner square case mounted on back plate. Ample wiring space is provided at top and sides of inner square case.



OUTSTANDING FEATURES

- Simplified installation.
- Easier maintenance.
- Mechanically stronger cases.
- Greater protection to mechanisms.
- Simplified operating instructions.
- Greater visibility.
- Reflecting "Fire" signs.
- Interchangeability with prior Gamewell Three-Fold boxes and parts thereof.

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In Canada: Northern Electric Company, Ltd., Belleville, Ontario

NEWTON UPPER FALLS 64, MASSACHUSETTS

There Is a Champion for Every City and Rural Fire Service

CHAMPION

of

VALUE

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Both

Fire Pumps

and

Fire Apparatus

A highly efficient pumper apparatus with the Champion Two Stage Centrifugal Pump powered by the 145 Horsepower F-7 Ford.

The pump is the S500, Underwriter rated capacity 500 gallons per minute. Actually delivers 700 GPM pumping at draft and 1000 GPM pumping from the average city hydrant.

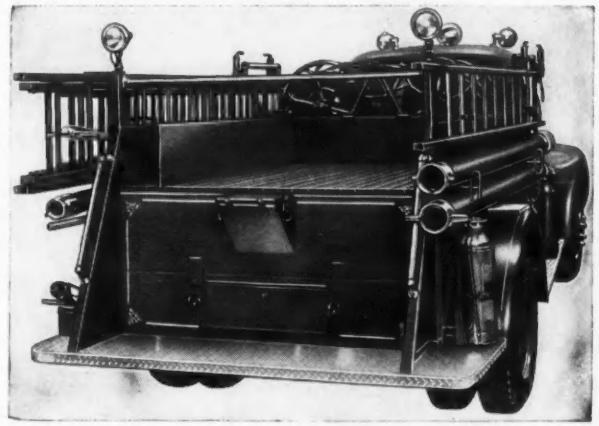
Or this Darley 80 Apparatus is also available in Underwriter capacities of 600 GPM and 750 GPM—the F-7 Ford engine having adequate power for the larger capacity pumps.

Booster Tank: 300 gallon flat type with quick action rear fill and special line piped from pump to tank for refilling tank by pumping at draft.

Booster Hose Reels: Two with horizontal and vertical guide rollers so that hose can be pulled off quickly and easily in any direction without rubbing or binding anywhere.

Hose Bed: Capacity 1200 feet 2½" double jacket fire hose and 400 feet 1½" double jacket hose. The 1½" hose is carried in partitioned space always ready for speedy and effective fire fighting. It is connected to a pump discharge outlet installed in the hose body with control valve accessible from the operating side of the pump. This 1½" line, with a small discharge tip, can be used as a third booster line when pumping from the booster tank. After 2½" fire hose is laid to a hydrant as a supply line to the pumper the 1½" line can be used with a larger tip for maximum fire extinguishing performance.

Write for Fire Apparatus Booklet



High Pressure Fog Pumps

W. S. DARLEY & CO. Chicago 12

(ESTABLISHED 1908)

Front and Midship Pumps

Firemen

Volume 17 Number 12

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The Cover Photo

The cover picture submitted by Chief W. J. Taylor of Burbank, California, shows the new 4-story concrete drill tower of the Burbank Fire Department. Four 2½-in. standpipe lines are discharging from the three upper floors and roof. These lines are supplied by two lines from 1000 gpm American LaFrance pumper stationed at a hydrant on the drill grounds. The lower floor of the tower is equipped as a smoke room. Note the outside location of this normally dry standpipe with valves near the fire escape windows on each floor. If flames were issuing from an upper story window connection would be made on the floor below the fire to give the hose crew a secure operating base. A fundamental rule in fighting fires on upper floors is to always advance a line from below so that the hose crew will not be cut off. Violation of this rule by the first due pumper company in one large city resulted in a 5-alarm fire causing $500,000 loss. This company attempted to operate the first line from the floor on which the fire occurred, lost their line and very nearly lost their lives before being rescued. Meanwhile the fire spread beyond control.

Important Notice!

Beginning January 1, 1951, a new distribution plan for NFPA FIREMEN magazine goes into effect. For over 17 years multiple copy distribution of NFPA FIREMEN has been limited to fire departments in communities of less than 25,000 population. Under the new plan, all fire departments and fire chiefs holding associate membership in the National Fire Protection Association will be entitled to six free subscriptions to NFPA FIREMEN in addition to the other publications sent to all NFPA members. In addition, member fire departments will be allowed to purchase additional subscriptions for their fire department personnel at $1.25 per annual subscription ordered with their NFPA membership.

Any fire fighting organization whether paid, call, volunteer, or industrial fire brigade, independent fire company or fire department will be permitted to receive NFPA FIREMEN under this plan. The six free copies of NFPA FIREMEN will be given under one membership for each organization.

Fire departments that were getting ten subscriptions to NFPA FIREMEN under the old plan will get six free subscriptions upon renewal. They can continue to buy additional subscriptions at a cost of $1.25 each as formerly. Subscriptions to FIREMEN are available only through NFPA membership. Departments holding membership will be notified as usual when membership renewal is due and can then indicate the number of subscriptions to NFPA FIREMEN desired.

Singed Firemen

On several occasions fire fighters have been seriously burned and have required hospital treatment due to accidents which occurred when they have attempted to light demonstration or training school fires using gasoline. At a recent fire school in South Dakota a shack was primed with gasoline. When a match was struck to start the fire an explosion blew the shack completely apart, some sections flew 160 feet and landed in the crowd. The fireman who struck the match was blown several feet and landed in burning grass. Other fire fighters rushed through the flames, pulled him to safety and started artificial respiration until a resuscitator could be applied and the burned man removed to a hospital. The firemen knew that there would be a flash but no one expected a severe explosion. However, gasoline is no respecter of persons. It not only burns vigorously but is explosive when the percentage by volume mixed with air is between 1.3 and 6.0. Training fires and demonstrations are part of the fire fighting program, but some definite steps are in order whenever such a fire is planned: 1. Assign a definite crew the responsibility for conducting the fires. 2. Have only one man appointed to light any fires. 3. Make certain that the man lighting any fire is properly clothed with protective fire clothing and is covered at all times with charged hose lines of adequate size to prevent serious injury in case of mishap. 4. Minimize the amount of gasoline or other low flash point fuel used in starting fires. Higher flash point oils, ignited with a little gasoline will provide an equally effective demonstration. 5. Lighting should be done with trailers, lighting devices or other remote means. This is also important at oil pit fires where a man's boots may slip on oil as he attempts to retreat after starting a fire. 6. Spectators not immediately concerned should be kept at safe distances.

If fire fighters expect the public to have proper respect for fire dangers they must themselves set the example. The fire fighter is brave, but recklessness and bravado have no place in fire training programs or fire fighting demonstrations.

New Florida Fire College

THE 1949 Florida State Legislature enacted a bill creating a Board of Trustees for the Florida State Fire College and establishing at Ocala an institution to be known as the Florida State Fire College. This bill was created and carried through to enactment by the Florida State Firemen's Association. It provides for the appointment by the Governor of three trustees who have been regularly appointed firemen in the state for the previous five years, and who are to serve for four year terms. The present trustees are: Chairman W. H. Barnett of Neptune Beach, on leave from the Jacksonville fire department, Chief T. B. Sexton of Ocala, and Chief Earl Levy of Tallahassee. The trustees operate the Florida State Fire College as a state institution subject to the supervision of the Board of Commissioners of State Institutions.

The trustees selected as Superintendent for the Fire College, Chief Henry R. Chase of Miami, past-president of the International Association of Fire Chiefs and a member of several NFPA committees. Due to unavoidable circumstances Chief Chase has been unable to move to Ocala and take over the direction of the college. At the request of Chief Chase and Mr. H. F. Hinton, State Supervisor of Trade and Industrial Education, W. H. Barnett who succeeded the late James Britton as State Coordinator of Fire Service Training is at present in charge of the college as well as all other state fire service training.

A classroom building having seven classrooms, an office, and an assembly room seating 150 has been completed and was used for the three weekly sessions of the annual Fire College during August. At that time 418 units of training were given with 7,106 student hours of instruction.

The Florida State Fire College offers the student twenty unit courses. Each of these requires 30 hours of training for which the student receives a certificate. Completion of a series of these courses leads to a Fire College diploma. The present staff in addition to Coordinator Barnett includes Mrs. Gordon Skipper, Secretary; and two instructors, Chief Allen E. Erwin and Captain James A. Fleming. At least four additional instructors are to be appointed in the near future.

In the first five months after the appointment of "Bill" Barnett as Coordinator, the instructors gave unit courses of training to 1,735 fire fighters in 85 departments with a total of 11,422 student hours of instruction.

The itinerant instruction offers five unit subjects which together cover from 15 to 48 hours of training. For these five units the student receives a certificate of itinerant instruction. However, this certificate does not apply toward a Fire College diploma. Diplomas are issued only to those completing the required series of 30 hour unit subjects taught at the college which at present offers 600 hours of instruction in various fire subjects.

The Florida Fire College is believed somewhat unique in that at the urging of the State Firemen's Association, the State Legislature has created a completely new state educational institution operated by fire fighters for fire fighters. This institution is not attached to any existing educational organization but has its own campus and facilities.

Group of 81 fire fighters lined up before the new classroom-assembly building at the Florida State Fire College at Ocala. Assembly room is 25 x 42 ft. size. Upper left: a class in fire hydraulics. Upper right: a class using models to demonstrate structural fire fighting.

Pump Pressure for Wyed 1½ in. Lines

by Fire Service Instructor George Orgain, Oklahoma A & M College, Stillwater

INTERESTING tests have been conducted by Chief Robert Atchley of Woodward, Oklahoma, in an effort to find a good fire ground "rule of thumb" for determining pump pressure when using 1½-in. lines with adjustable head fog nozzles wyed off varying lengths of 2½-in. hose. Manufacturers speak of fog jets as "straight streams" and "30 degree streams" and provide tables showing gpm discharge at these settings.

However, it is difficult to determine how much the nozzle is opened for either stream. A variation in the opening of the nozzle will change the gpm flow even though the nozzle pressure remains the same because the orifice will be larger as the nozzle is opened.

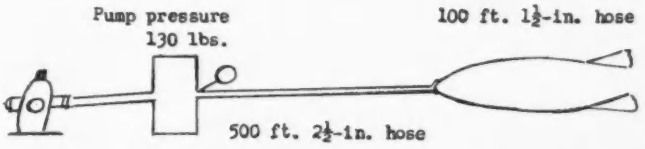
To overcome this problem the circumference of the adjustable fog head was measured at the packing gland ring with a piece of tape. The tape was then divided into units of 1/16-in. and this measurement converted into degrees. With the nozzle in the closed position and 0° as a starting point, the adjustable head and the stationary nozzle barrel were marked with a prick punch to locate the starting point. The adjustable head was marked to make sure that the packing gland was not turning.

An inline gage was installed just behind the nozzle and a fog stream approximately 4 feet in diameter at a point 15 feet from the nozzle was developed with 75 pounds showing on the inline gage. Observing the stream and feeling the nozzle reaction, it was decided this stream was satisfactory for structural fires under ordinary circumstances and that one man could handle the stream.

Then checking the opening of the nozzle it was found that the adjustable head had rotated 225°. At this point the adjustable head was marked with an "F" directly across from the 0° marking. Observing the inline gage and the discharge gage on the pumper it was found that the pressure on both gages had increased approximately one pound from the reading taken when the adjustable head was at the 225° setting.

After getting two nozzles marked as described above, a wye was attached to the pump discharge and 100 ft. of 1½-in. hose with an inline gage just back of each adjustable head fog nozzle was attached to each wye outlet. The pressure

(*Continued on page 24*)



There are five 100 ft. lengths of 2½-in. hose. Using 6 pounds per 100 ft., friction loss in this line will be 5 × 6 = 30 pounds F.L. in the 2½-in. hose. Adding 100 pounds to cover the nozzle pressure plus the friction loss in the wyed 1½-in. line we find the pump pressure to be: 30 pounds + 100 pounds = 130 pounds pump pressure. If the 1½-in. leader lines are each 200 ft. long an additional 25 pounds should be added.

Pressure Readings (in Pounds) for Wyed 1½-in. Lines

LEADER LINE ASSEMBLY: WITHOUT 2½-IN. SUPPLY LINE

Length of Line	Type of Jet	Pump Pressure	Nozzle Pressure		Friction Loss	
100 ft. lines from wye on discharge gate	Straight	99	L1	74	26	(No. 2½ in. hose)
			L2	75	25	
	30° Fog	100	L1	75	25	
			L2	76	24	

Average friction loss per 100 ft. 1½-in. hose 25 pounds

FRICTION IN 2½-IN. SUPPLY LINE:

★With 100 pounds required at wye for leader line assembly and nozzle pressure, the friction loss in 2½-in. hose is pump pressure less 100 pounds.

Length of 2½ in. Line	Type of Jet	Pump Pressure★	Nozzle Pressures Both Lines		Total Friction Loss 2½ in. Hose	Friction Loss Per 100 Ft. 2½ in Hose
100 ft.	Straight	105	L1	74	5	5
			L2	75		
	30° Fog	105	L1	75	5	5
			L2	76		
200 ft.	Straight	109	L1	74	9	4.5
			L2	75		
	30° Fog	109	L1	74	9	4.5
			L2	75		
300 ft.	Straight	115	L1	75	15	5
			L2	77		
	30° Fog	115	L1	76	15	5
			L2	78		
400 ft.	Straight	121	L1	75	21	5.25
			L2	77		
	30° Fog	121	L1	76	21	5.25
			L2	78		
500 ft.	Straight	127	L1	75	27	5.4
			L2	77		
	30° Fog	127	L1	76	27	5.4
			L2	79		
600 ft.	Straight	132	L1	75	32	5.33
			L2	77		
	30° Fog	132	L1	75	32	5.33
			L2	77		
700 ft.	Straight	137	L1	75	37	5.28
			L2	77		
	30° Fog	137	L1	75	37	5.28
			L2	77		
800 ft.	Straight	142	L1	75	42	5.25
			L2	78		
	30° Fog	142	L1	75	42	5.25
			L2	78		
900 ft.	Straight	149	L1	76	49	5.44
			L2	80		
	30° Fog	150	L1	75	50	5.55
			L2	77		
1000 ft.	Straight	156	L1	75	56	5.6
			L2	80		
	30° Fog	159			59	5.9

Average friction loss 100 ft. 2½-in. hose: 5.246 for a straight stream and 5.205 for a fog jet. Because of elevation of nozzle above pump ("head" or "back pressure") it was decided to allow 6 pounds pressure loss per 100 ft.

Fire Training School and Grounds Department of Fire Service, New Haven, Connecticut

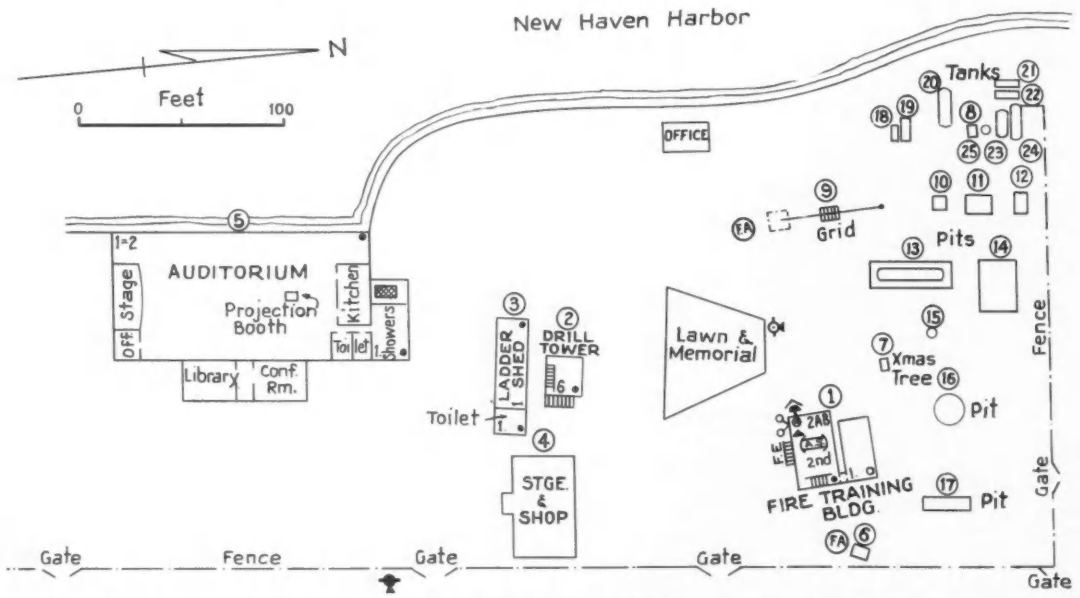
From study by Edgar A. Spotz, Fire Training Advisor
Public Service Institute, Harrisburg, Pennsylvania

Right: Fire Training Building.

IN connection with plans being developed for a state fire training center at Lewistown, Pennsylvania, Mr. Spotz (member NFPA Committee on Firemen Training), made an on-the-spot study of the New Haven, Connecticut, fire training grounds. These grounds were the first for municipal and state use completely equipped for training in actual fire fighting. In view of the fact a number of states and cities are planning improved fire training grounds, FIREMEN is publishing the plan prepared by Mr. Spotz together with a selection of the photographs accompanying his report. Not shown in the plan is a New Haven city fire station located a few hundred yards away. This is advantageous because active fire companies can be summoned to the training ground fires in response to alarms actuated by city alarm box, automatic sprinkler operation, or by automatic fire detection devices. On special occasions, unrehearsed fires of second-alarm proportions have been fought at the training grounds.

The training grounds are a credit to the imagination and vigorous leadership of Chief Paul P. Heinz (member NFPA Committees on Water Spray and Wetting Agents). Actual construction was under the supervision of Deputy Chief Thomas Collins, a member of the Connecticut Drillmasters Association. Drillmaster is Captain Andrew Flanagan.

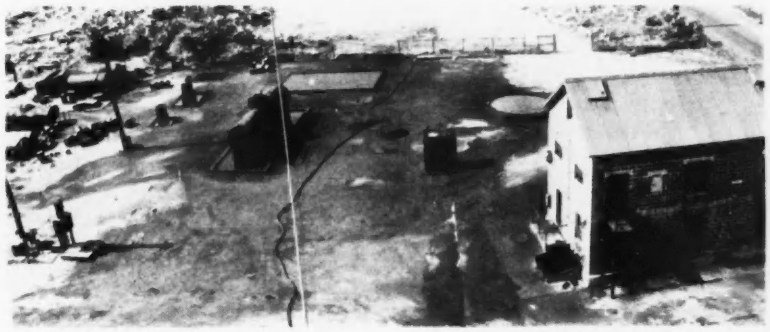
All of the construction work was done by officers and members of fire department companies detailed in turn to the training grounds. This vast project was erected by the fire fighters as a memorial to their own war veterans and war dead. A memorial monument and flag pole stand in a small park in the center of the training grounds. Very modest sums of money were available to the department for training facilities, so that hard work by the fire fighters plus material aid obtained by Chief Heinz from the New Haven Railroad and others interested made the project possible. The state last year appropriated $65,000 toward the large auditorium structure built by the firemen. It has heavy roof trusses which were salvaged from an abandoned wharf structure nearby.



Fire Training School and Grounds, Department of Fire Service, New Haven, Conn.

1. Fire training building in which fires are conducted. Designed to represent typical 2½-story building with basement.
2. Typical five-story fire department drill tower with fire escape and standpipes.
3. Ladder and tool storage building. Also capable of serving as a classroom.
4. Storage and shop building equipped with large garage doors.
5. Large auditorium. Kitchen capable of serving 600 persons. Adjoining library and conference rooms.
6. Registration booth.
7. "Christmas tree" facility for conducting flammable liquid fires under pressure.
8. Oil pump house.
9. High tension electric grid.
10. Electric motor in pit.
11. Electric transformer.
12. Industrial type oil burner in pit.
13. Railroad tank car in pit
14-17. Open pits for flammable liquid fires.
18-24. Storage tanks for flammable liquids
25. Solvent reservoir.

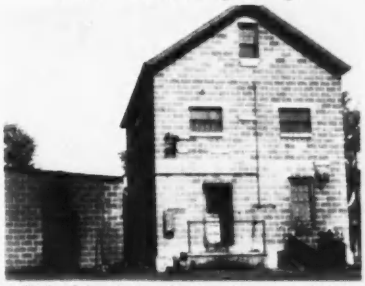
VIEWS OF NEW HAVEN FIRE TRAINING GROUNDS



1. View of yard from drill tower

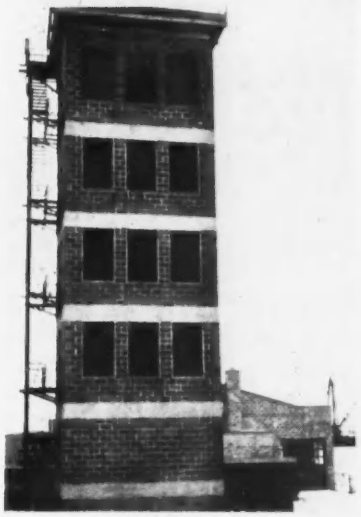
2. (Below) Oil transformer fire pit

3. (Below) Fire training buildings

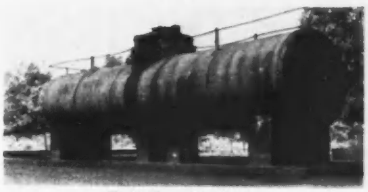


4. (Below) Roof of auditorium, library and kitchen

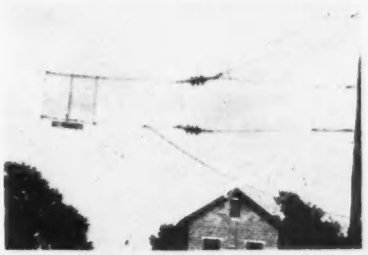
5. (Below) Ladder and tool storage structure



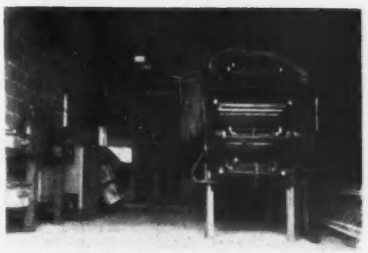
6. Drill tower



7. Railroad tank car



8. Electric high tension grid



9. Interior of ladder storage building

1. This view looking north from the drill tower shows fire training building at right, several large oil fire pits, railroad tank car in pit, various motors and transformers in pits, solvent and fuel storage tanks, and near the center the "Christmas tree" where fires in flammable liquid under pressure are fought.

2. Transformers in concrete pit present a stubborn training fire with oil discharged from perforated overhead pipes during the fires.

3. These buildings are perhaps the most important facility at the training grounds. This 2½-story and basement building, protected by automatic sprinklers and fire detection and alarm devices, makes possible duplication of almost any typical building fire that might be encountered. There are three large fire pits in the basement and flues built into the walls permit extension of fire to upper floors. The one-story building to the left is used in instruction with masks, fog nozzles, etc. It connects directly into the main floor of the larger building presenting an exposure fire problem.

4. The large auditorium structure south of the drill tower. The wing to the left contains conference room and library. The wing in the foreground houses the showers needed by the firemen after the fires.

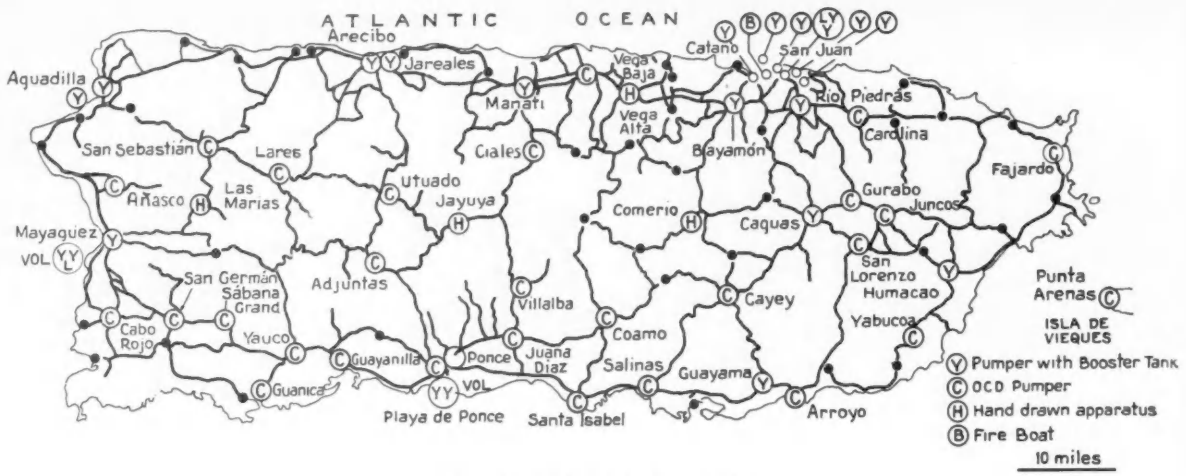
5. This long structure is designed to house the various fire fighting tools and equipment used at the school. This includes various masks and emergency equipment as well as a complete complement of ladders. It can also be used as an extra classroom.

6. This drill tower replaced a brick structure on a crowded lot in back of a city fire station. The top floor has a concrete basin in which fires may be conducted. The standpipes and fire escape were salvaged from the old tower. At the right may be seen the large overhead apparatus door leading directly into the auditorium. The New Haven fire fighters erected all of these structures.

7. Railroad tank car with perforated pipes above to make possible a hot fuel oil fire. This is extinguished with two 1½-in. fog lines (after proper instruction.)

8. A high tension electric grid with which the conductivity of various hose streams may be demonstrated safely.

9. Interior of ladder storage building.



Locations of Insular Fire Stations in Puerto Rico.

The Insular Fire Service of Puerto Rico

THE task of protecting a congested island with a population of 2,200,000 which until eight years ago had little or no fire protection is the difficult problem faced by the Servicio de Bomberos de Puerto Rico (Insular Fire Service). The island has an area of approximately 8400 square miles (about half that of Connecticut) in which there are 15 cities of over 10,000 population and two of over 100,000 persons. Prior to 1942, a few cities, namely San Juan, Ponce, and Mayagüez, had volunteer fire companies with apparatus furnished by the municipalities. Practically the only fire protection furnished to other communities was that rendered by neighbors or by industrial fire brigades.

In connection with World War II, a law was passed in 1942 to establish the Insular Fire Service. It gave the Governor of Puerto Rico the power to organize paid fire service for all parts of the island, and to appoint a chief who would be in charge and would prepare and enforce rules and regulations on fire prevention. The following year Chief Rául Gandára (member NFPA) an experienced volunteer fire chief of 25 years service was appointed to head the new paid department.

Obviously, the problem of building a permanent fire force protecting many square miles of urban and rural communities with a population exceeding that of many states requires considerable long range planning. The first equipment, provided in wartime, was largely of war emergency and civil defense design and was not entirely adequate for an insular fire service. For example, OCD type pumps had perhaps adequate pumping capacity considering the meagre water supplies available in Puerto Rico but the apparatus lacked necessary water tank capacity for rural service. Also with runs up to 55 miles in some areas it became obvious that additional stations and equipment were needed.

In order to get expert outside opinion regarding an overall fire protection facility, Mr. A. C. Hutson, retired assistant chief engineer for the National Board of Fire Underwriters was called in earlier this year to serve as a consultant. Mr. Hutson's 16-page printed report following general standards of the National Board describes in detail the present organization and equipment of the department and makes 36 recommendations for improvements in fire protection of which 12 are starred as urgent. These urgent recommendations include suggestions that a standard hydrant be adopted, that fire department radio be installed, that fire stations be provided for critical areas, that OCD pumpers be equipped with water tanks or placed in reserve, that 35 or 40 ft. ladders be provided on pumpers where there are no ladder trucks, that OCD hose be replaced with new double-jacket fire hose.

The latest annual report by Chief Gándara, dated July 26, concurs in Mr. Hutson's recommendations and points out that 14 new fire stations are being erected this year with an $80,000 appropriation. This remarkable achievement is possible because the fire fighters are doing 80 percent of the construction work. The department is also, in its own shops, converting the OCD pumping units to tanker-pumpers. New chassis have been obtained from the States and 500 gallon water tanks are being provided on each pumping unit. Next year some twenty new stations (not shown on the accompanying map) will be in service.

Chief Gándara also is able to point with pride to the accomplishments of a Fire College which keeps the members informed regarding the latest fire fighting and fire protection techniques. Also the Division of Inspection of Buildings is making excellent progress. Chief Rául Castellón of this division this year visited a number of the large fire prevention bureaus in the United States to study the latest fire prevention techniques.

During the last fiscal year the department answered 1095 calls of which 252 were for serious fires and 683 were for incipient fires. Fire losses were held to $1,116,538, a decrease of 28 percent in one year and less than 50 percent of the 1948 losses. The largest fire occurred in Arecibo on January 13th when 270 houses were burned due to lack of hydrants. However, water supplies are being rapidly improved so that the outlook for the future is encouraging. There are still 16 towns without fire companies and of these 6 are remote from protection. However, it is impressive to note that less than 400 men have

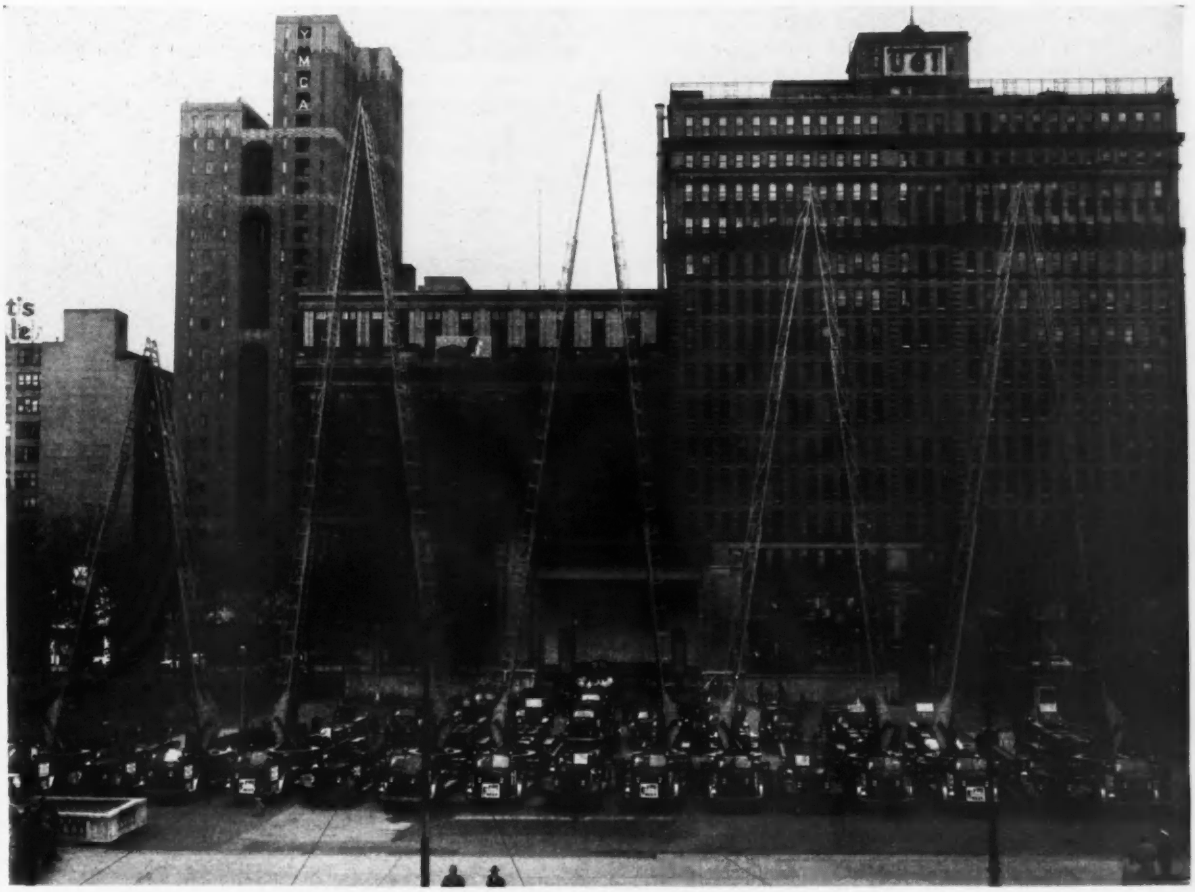
(*Continued on page 25*)

Pennsylvania Fire Training Report for 1950

PENNSYLVANIA was fifth in the number of men receiving organized systematic firemanship training under a state program during the fiscal year ending May 31. According to a report by Edgar A. Spotz, Fire Training Advisor for the Public Service Institute, State Department of Public Instruction, a total of 6586 firemen received instruction in 106 local classes, 8 regional and county fire schools and the annual Pennsylvania Fire School at Lewistown. This total was exceeded only by the States of New York where 18,467 men received training under the state program, Indiana, where 7,605 men received training, Arkansas where 6,852 men received training, and Nebraska where 6,613 men received training. As Pennsylvania is generally conceded to be second only to New York State in the total number of active volunteer firemen on fire company rosters it is likely that in future years the state will stand even higher. During 1950 plans were started for erection of the State's permanent fire college facility at Lewistown. This is to be the most modern and most complete of its kind in the nation. It will duplicate the various types of structures in which fires can occur in Pennsylvania so that the firemen may practice against actual fires before they occur in their home communities.

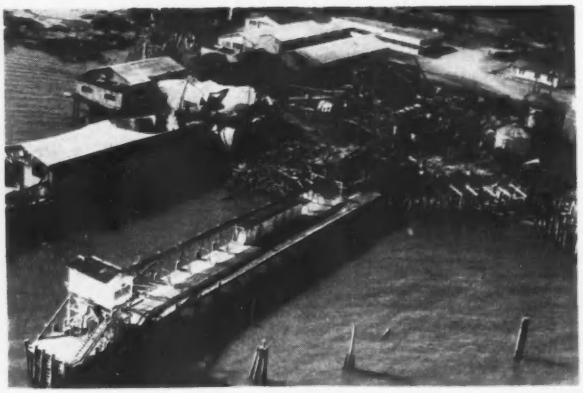
The figures included in the state report do not include training not reported to the state, such as that of the state's few paid fire departments such as Philadelphia, Pittsburgh, and Erie. Most of the fire departments in Pennsylvania are traditionally volunteer organizations including those of some of the larger cities such as Harrisburg (State Capital) 89,000 population, Reading 109,000 population, and Bethlehem 52,000 population.

The training report further adds that 94 classes (54 hours each) were held in the "Fundamentals of Fire Fighting" with 3,146 men registered and 2,304 graduating. Twelve 30 hour classes were conducted in "Advanced Fire Fighting Techniques" with 314 men registered and 279 graduating. The 1949 Fire School at Lewistown had 646 men registered and the 1950 school had 765 registered. County and regional schools had the following attendance: Allegheny County 1,096, Beaver County 276, Berks County 146, Chester County 130, Lancaster County Firemen's Association 245, Northeastern Pennsylvania Firemen's Federation 275, Somerset-Bedford Counties 174, Western Pennsylvania Firemen's Training Institute 138.



Philadelphia Fire Bureau Displays Latest Equipment

The Philadelphia Fire Bureau under Chief Engineer John C. Cost displayed $600,000 worth of new fire fighting equipment obtained during 1950. The display was conducted on October 13th prior to a Fire Prevention Week parade. These acquisitions practically complete the fire apparatus modernization program sparked by Mayor Bernard Samuel and Director of Public Safety Samuel H. Rosenberg. (See NFPA FIREMEN, July 1950, page 10.) Thirty-one new trucks, twenty-four of which appear in this photo, were obtained this year. These include: four 100 ft. American La France aerials, four 85 ft. aerials by American La France and Peter Pirsch, five 65 ft. aerials by American La France (no tiller wheel), six 750 gpm Autocar pumpers, eight Ford combination cars with Hale booster pumps, one Ward La France floodlight wagon, one rescue squad car on International Harvester chassis with body by Approved Fire Equipment Co., two pipe line cars to provide heavy streams from high pressure water mains. These are Ford trucks with bodies by Ward La France.



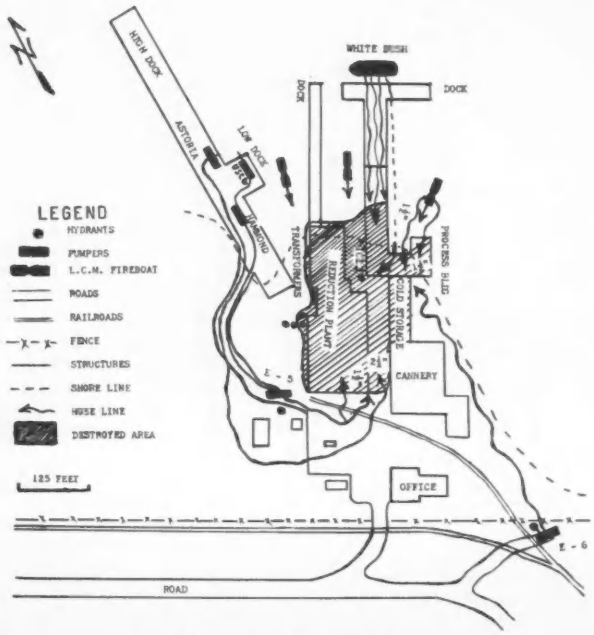
Cannery Fire in Oregon

The Del Mar Canning Company in Warrenton, Oregon, was recently involved in a fire that brought a loss estimated at $400,000. Deputy Chief J. W. Gault submitted a report, which is summarized below, with a sketch of the fire grounds.

The fire originated in the fish reduction plant at about 8:00 A.M., on July 22. After considerable delay the Warrenton Fire Department was notified. Two 500 gpm pumpers and thirty call members answered the alarm, but by the time they traversed the two miles to the scene the reduction plant was heavily involved. Winds of 12 to 20 mph drove the flames against the cold storage building, igniting the tar paper roof.

Warrenton's Engine No. 5 initially laid a line from the hydrant to the area between the reduction plant and the main cannery buildings. However, pumping from this site was rendered ineffective when Engine No. 6 went into operation. Hammond's Fire Department placed a 300 gpm pumper into operation on the high dock where it received water from the Coast Guard unit and relayed it through Engine No. 5. Astoria's Fire Department soon arrived with a 500 gpm pumper, the Tongue Point Naval Station sent a converted L.C.M. equipped with two 500 gpm pumps which went into operation at various points between the docks, and the Coast Guard Cutter *Whitebush* supplied three 1½-in. lines with a 300 gpm pump and covered the north end of the buildings. Hydrant supply was limited and pumping from the adjacent Columbia River sometimes necessitated a draft of 18 feet. At one time it was necessary to extend a single line across 250 feet of water to operate in the interior of the storage area east of the process building.

Although the building was unsprinklered and pumping operations were complicated, the fire was under control in four hours and a good stop was made in protecting the cannery building.



Roy M. Ackerman photos

Apparatus Trapped Behind Door of Blazing Trappe Fire House

A FIRE which damaged the station and equipment of the Trappe Volunteer Fire Company at Collegeville, Pennsylvania, on September 17, contains some lessons of interest to other fire departments. According to Chief G. L. Rambo, a passerby sounded the siren at 12:30 A.M. Fire was then confined to the rear compartment of the department's ambulance and was believed due to a short circuit. Unfortunately, the motor for the station's large apparatus door was located directly above the ambulance. Heat quickly made the motor inoperative and fire made it impossible to get to the clutch to disengage the door motor so that the door could be raised.

Five volunteer fire companies responded to the alarm and confined the fire to the 27 x 20 ft. apparatus room. The 1947 Buick ambulance was a total loss and a 1937 Reo truck with Hale pump was damaged 50 percent. Also 1600 ft. of hose was destroyed, as well as two Scott Air-Pak masks and an Emerson resuscitator. Damage was $18,000 although flames did not get upstairs.

Chief A. A. McMillan (right) of the Grayslake Volunteer Fire Department. The chief, now 83 years of age, has been chief since the department was organized in 1899, a record over more than 51 years service in command of the department. Note the left sleeve which shows the "hashmarks" earned for this length of service.

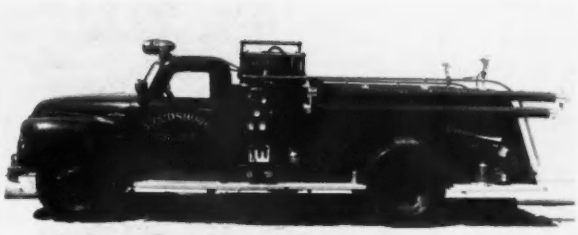
Grayslake Volunteer Fire Department

THE Volunteer Fire Department of Grayslake, Illinois, has added the attractive tanker shown above to its fire fighting equipment. This unit carries a 1,000-gallon water tank and has a 300 gpm Darley JFS high pressure pump delivering capacity at 150 pounds and capable of pressures up to 800 pounds. There are two 1½-in. and one 2½-in. pump outlets. The truck is a 2-ton Chevrolet and carries a 45 ft. extension ladder. The body was built by Keneth Poehler of Grayslake.

Grayslake is a town of 2,000 population. The fire department has 25 members who are paid a dollar per hour on the basis of fires attended. In addition to the new truck, there are a large-sized and a medium-sized combination pumper and ladder trucks for use against farm fires, and resuscitation and other rescue equipment.

The fire station was built in 1941. Territory protected consists of a five-mile area of farms, private property on seven lakes near the town, and a manufacturing district with a large gelatin factory, three bulk oil plants, and a lumber yard.

VOLUNTEER FIRE DEPARTMENTS



Lordsburg Fire Department

JAMES A. "SMOKEY" GREER, JR., of the Lordsburg, New Mexico, *Liberal*, reports that Lordsburg's new Seagrave "Yankee Clipper" triple combination 500 gpm pumper "sure is a fine truck and does the work it is supposed to do." The pumper is one of a new line of Seagrave apparatus built on a sturdy commercial truck chassis but having a Seagrave class A pump, 500 gpm at 150 pounds pressure. The chassis of the Lordsburg unit is a GMC FC453 truck with 161-inch wheelbase and a 270-6 cylinder GMC engine.

The unit has a 400-gallon water tank, carries 1000 ft. 2½-in. hose and 400 ft. 1½-in. hose. It has a separate high pressure pump supplying two reels of ¾-in. hose and supplying 60 gpm at 800 pounds pressure. The two pumps can operate simultaneously and the high pressure pump can be operated while the truck is in motion. This is important when combatting field fires. The department's 1937 International truck with 300 gpm front-mount pump is being converted into a tanker for rural fires and as an auxiliary for city use.

The Lordsburg Fire Department was organized in 1919 and its first motor truck was a Model T Ford purchased in 1922. Dr. J. H. Baxter became chief in 1942.

Reporter "Smokey" Greer is a life-long fire fighter. A native Texan, he has belonged to fire departments at Georgetown, Mart, Eastland and Camp Hood in Texas; Deming, Deming Army Air Field, Las Vegas, Camp Dexter, in New Mexico; U. S. Army bases at Prince Rupert, B. C., and at Okinawa, all prior to coming to Lordsburg. He is a member of both the Texas and New Mexico State Firemen's Associations.

Lost Acres Fire Department

THE new truck shown above marked "LAFD" is not equipment of the Los Angeles Fire Department. It is the latest pumper of the Lost Acres Fire Department (member NFPA) protecting the town of Granby, Connecticut. The Lost Acres Fire Department operates out of three village fire stations plus an additional station on the estate of LAFD Fire Commissioner Horace B. Clark, a long-time member of the Board of Fire Commissioners of the city of Hartford. This latest truck has a 500 gpm Waterous pump on an F-8 Ford chassis, carries 600 gallons of water, has a built-in foam proportioner, 1200 ft. 2½-in. hose and 600 ft. 1½-in. hose, two booster reels, and a 45 ft. aluminum extension ladder. An interesting feature is the wide catwalks extending along both sides of the hose body above the fenders. The pump is located in an enclosed compartment on the right side.

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*The Dept. of Forests & Waters has used **INDIAN** knapsack pumps for many years. They are highly efficient. The **INDIAN FIRE PUMP** is the most satisfactory forest fire fighting extinguisher we can buy.*

It is of particular value because its effectiveness is made possible through the use of any water supply.

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Chief Forest Fire Warden

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*I received my **INDIAN FIRE PUMP** yesterday and today helped put out a fire in a two story building with it. The **INDIAN** did a fine job and showed up in great shape and I have had several people ask me where I got it. You have a fine fire fighter.*

Wesley Holcomb

"WORTH ITS WEIGHT IN GOLD"

*Last spring one of your **INDIAN FIRE PUMPS** saved our home. It worked to perfection and is worth its weight in gold.*

*We would like to act as agents for selling **INDIAN FIRE PUMPS** here. We know from actual experience you have a great fire extinguisher.*

Leonard Nelson

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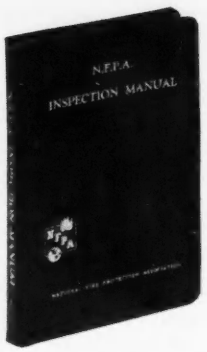

NFPA Inspection Manual Now Available

THE pocket-size NFPA Inspection Manual is now ready for distribution. It contains a completely new text written by the NFPA Staff under the direction of Chief Engineer Horatio Bond as Editor and supervised by the NFPA Committee on Fire Inspection, of which Arthur G. Smith, Chief Engineer of the Traveler's Fire Insurance Company of Hartford is Chairman. Other members of the committee were: A. L. Brown, Factory Mutual Engineering Division, R. J. Douglas, Oklahoma A&M College, Edward W. Hall, Fire Marshal, Detroit Fire Department, William G. Hayne, New York Board of Fire Underwriters, and R. D. MacDaniel, Grain Dealers' National Mutual Insurance Company.

Its brevity will appeal to the beginner and the experienced inspector. The present edition contains some material on special hazards in building construction and life safety not in the previous NFPA manual "Field Practice."

The "Inspection Manual" is for use by property owners, fire departments, inspection offices (as of insurance companies, central managements, and governmental departments.) It is bound in Fabrikoid, has 366 pp., 4⅛" x 6½" and costs $3.00 per copy. ($2.00 each for six or more copies ordered at one time and sent to one address.)

For Sale

Here Are Some Used Fire Trucks in Good Condition

1 — 1943 Seagrave combination 750 gpm pump. New aluminum ladders. Mileage 1900.

1 — 1943 Chevrolet 500 gpm Hale pump.

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1 — Skid pump with Chrysler engine and Hale 500 gpm pump.

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Phone Main 1705

Volunteer Fire Department of Mount Rainier, Maryland, Completes Rebuilding of Fire House

THE Mount Rainier Volunteer Fire Department, Maryland (member department NFPA), recently dedicated a completely renovated fire house. Now in its thirty-eighth year of organization, this department has had a continuous record of progressive development as a volunteer organization.

At present there are forty volunteer and two paid firemen in the department, which is headed by Chief Karl A. "Chick" Young. Chief Young has also been active in the instruction of firemen at the courses provided by the University of Maryland for the past twenty years, and as Chief of Fire Control, he helped in the establishment of central alarm system facilities for Prince Georges County through which all independant volunteer fire companies and rescue squads are controlled.

The Mount Rainier department was first organized in 1912, and incorporated in 1913. In that year a Knox automobile was converted to a hose wagon and placed in service, as the first piece of motorized apparatus in the county. A Model-T Ford chemical truck was acquired in 1915 and in 1917 a Model-T Ford hose wagon was purchased. Then in 1925 a modern brick fire house was completed by the volunteer members of the department, with assistance from citizens of the community. The complete renovation of the station has followed as more equipment and better quarters became necessary.

Chief Karl A. 'Chick" Young of the Mt. Rainier Volunteer Fire Department shown in an informal pose at the fire service training grounds of the College of Engineering, University of Maryland.

The personnel of the department have attended the courses of instruction provided by the Fire Service Extension, at the College of Engineering of the University of Maryland. Their efficiency as a group has been rewarded by the first place awards in fire prevention activities for the State of Maryland for four consecutive years and honorable mention on two other occasions in the competition conducted by the National Fire Protection Association. Mount Rainier also has a Class B rating established by the Maryland Fire Underwriters Rating Bureau.

A town fire tax helps in the purchase of equipment and apparatus for the department, but uniforms and recreational facilities are purchased with dues and other funds raised by the members.

This is Mt. Rainier's renovated fire station. Apparatus is a Peter Pirsch 70-foot aerial ladder truck and two 750 gpm Seagrave pumpers. The department, as a member of the Prince Georges County Volunteer Firemen's Association and the Maryland State Firemen's Association has been active in establishing the mutual aid and civil defense programs in the county.

Hale Type FZZ

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• Compact • Powerful
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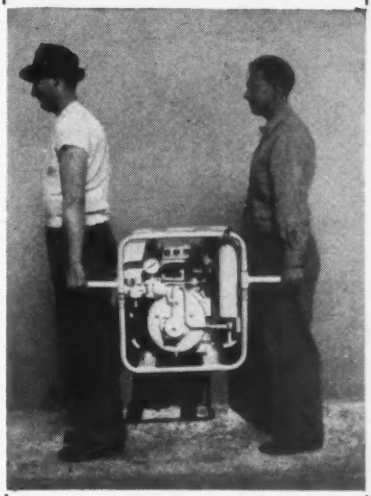

Above — Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels, or on two truck-type wheels.

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- For fighting field or forest fires from moving trucks.
- For "wetting down" and standby use, thus releasing major equipment.
- For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.
- For relaying water to pump or booster tank from sources inaccessible to major Fire Pumpers.
- For factory protection in fighting fires before major equipment arrives.
- For fighting oil or other type fires requiring foam. (Built-in foam proportioner available when specified.)

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. Can supply two capable streams through 1½-in. lines, using nozzle tips up to ½ in. **Note:** Discharge Adapter can be supplied for use with 2½-in. fire hose.

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Fire Pumps in All Standard Capacities

THIS BOOT MAY SAVE YOUR LIFE!

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Membership Report

Fire Department Membership Plan

IF you are not now receiving NFPA FIREMEN, subscribe by using the form below or write for a special fire department application blank. This provides application for associate membership in the National Fire Protection Association as FIREMEN is available only to NFPA members. NFPA membership provides a monthly FIRE NEWS, a QUARTERLY magazine, and various other publications which is in addition to the number of subscriptions to FIREMEN ordered under the membership plan.

ALL fire departments, large or small, paid, call, volunteer or industrial, are eligible. The department must join as an NFPA Associate Member. Annual dues are $12.50 with up to six subscriptions to FIREMEN magazine included and any number of additional subscriptions for members of the department at $1.25 each. Only one such membership per fire department will be accepted and only fire departments, as such, can use this plan. Firemen's associations such as county or regional bodies may subscribe to FIREMEN on the same basis as regular NFPA members. However, any fire company independently organized (for example, where it is separately incorporated as a volunteer company) will be treated as a separate fire department under this class of membership.

THIS fire department membership plan may be used by a fire chief who is now a personal member of the NFPA or who wishes to have the NFPA membership in his name rather than in the name of his department.

The new distribution plan will become effective on January 1, 1951. Fire departments who received multiple copies under the previous distribution plan will be notified when their membership renewal date approaches and can specify how many copies they wish to receive under the new plan.

●

NFPA Welcomes:

THE following departments as Fire Department Members. Current Fire Department Membership in the Association now totals 1,360 companies and 20,513 men.

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Idaho: Nezperce Volunteer Fire Company, Nezperce

Illinois: Marseilles City Volunteer Firemen's Association, Marseilles
Verna Community Fire Protection District, Verna

Michigan: Lonergan Manufacturing Company, Albion
Ann Arbor Township Fire Department, Ann Arbor
Swartz Creek Volunteer Fire Department, Swartz Creek

New York: Bayport Fire Department, Bayport

Ontario: Lever Brothers, Limited, Toronto

Rhode Island: Apponaugh Fire Company No. 1, Apponaugh

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Please enroll.....
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New Publications

NFPA Inspection Manual — See page 14 of this issue of FIREMEN

1951 National Electrical Code (Vol. V of National Fire Codes)

This volume, bound in red cloth similar to the other volumes of the National Fire Codes series, contains the complete text of the 1951 National Electrical Code. The first thousand copies of this book are scheduled for delivery on or about January 10, 1951, 1000 per week thereafter. Orders will be filled in the order of their receipt. **A special $2.00 pre-publication offer to NFPA members expires December 31, 1950. After January 1, copies available only at established price of $3.00 but subject to regular quantity discounts.**

Standards for the Installation of Blower and Exhaust Systems for Dust, Stock and Vapor Removal or Conveying.

Prepared by the NFPA Committee on Blower Systems, and adopted by the NFPA in 1949. The American Standards Association approved this edition on August 31, 1950. These standards were also adopted and published in the NBFU Pamphlet No. 91 in 1949. **20 pages. Twenty-five cents.**

NFPA No. 77 — Static Electricity.

This 1950 publication supersedes the last edition reprinted by the NFPA in 1948, and includes revisions adopted at the 1950 annual meeting. These revisions were made by the Committee on Static Electricity in order to make its recommendations consistent with the Committee on Flammable Liquids. **52 pages. Fifty cents.**

NFPA No. 78 — Code for Protection Against Lightning.

This code supersedes the edition of 1947. It was prepared by the Committee on Protection Against Lightning, a committee sponsored jointly by the NFPA, the National Bureau of Standards and the American Institute of Electrical Engineers. **48 pages. Fifty cents.**

NFPA No. 58 — Standards for the Storage and Handling of Liquefied Petroleum Gases.

This complete revision of earlier standards was adopted by the National Fire Protection Association in 1950 upon recommendation of the Committee on Gases. This edition supersedes all prior editions published by the NFPA in the National Fire Codes, by the National Board of Fire Underwriters, or elsewhere. **50 pages. Thirty-five cents.**

FIREMEN Reprints:

Electricity and the Fireman.

This popular article appeared in the October 1950 issue of FIREMEN and is an easy-to-read summary of the fireman's responsibilities in making electrical inspections. **4 pages. Ten cents.**

Atomic Bomb Effects and the Fire Fighter.

Here is an interesting analysis of the effects that can be expected from an atomic bomb explosion. The article appeared in the November issue of FIREMEN and was authored by Edward J. Kehoe of the New York Operations Office, U. S. Atomic Energy Commission. **4 pages. Ten cents.**

Making a Good Job of It—"Effective Use of Spray or Fog."

This reprint of a popular series appeared in the July issue of FIREMEN and summarizes the effective practices to be followed in "fog" application. **4 pages. Ten cents.**

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Now is the time to replace the old, worn-out signal with a new all-powerful, dependable Federal Siren, precision-built in weather-proof housing and durably constructed for extra long life. Federal Vertical Sirens are built with motors especially designed for alarm service. They are exceptional in pick-up, tone power and general performance. Don't risk lives with an inadequate alarm when a moderate expenditure will replace it with a dependable world-renowned Federal Vertical Siren alarm system. A variety of standard models is available. Write for literature.

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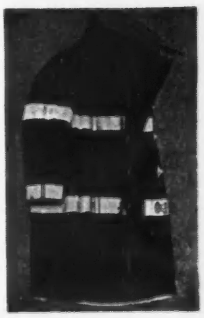

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All Midwestern Safety Coats have the moulded-in yellow stripes which are a part of the garment and not painted or sewed on. The *original* Midwestern Safety Coat will give you trouble-free protection and dependable service.

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For identity — for pride of membership . . . every volunteer fireman will want one of these permanent four-color authentic insignia decals on his automobile. Remember, we imprint your own fire Company name and address in the special panel.

Also available for paid companies.

LOOK AT THESE LOW C.O.D. PRICES

15 to 49 . . . . . 50¢ each
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Fire Company_____
Address_____

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FIRE HOSE IS **EXPENDABLE** . . . AND **EXPENSIVE**

Don't gamble your $1.60 hose against damage from mildew and rot when, for a nominal investment in a CIRCUL-AIR you can dry it QUICKLY, SURELY, SAFELY and EASILY.

CIRCUL-AIR is the patented, electrically operated HOSE DRYER which circulates pre-warmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It was designed to lengthen hose life; improve the appearance and functional design of new fire houses; and to save floor space and hard work. **NO OTHER METHOD is so fast —so easy to use—so economical.**

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Santa Fe • Toledo • Twin Falls • Trenton
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THE AIR CONDITIONING FIRE HOSE DRYER

THE CIRCUL-AIR CORPORATION
575 East Milwaukee Street
DETROIT 2 ◇ MICHIGAN

New York Bureau of Fire Mobilization and Control

THE November issue of FIREMEN contained the 1950 Report on State and Provincial Firemen Training. This indicated that of the 91,644 firemen receiving training more than 1/5th or 18,467 were trained by instructors working through New York's Bureau of Fire Mobilization and Control. Accordingly it may be of interest to know more of this Bureau's operations as outlined in a published report prepared specifically for the National Fire Protection Association's survey of firemen training and distributed by the Bureau.

The need for a permanent fire training program in the State of New York to continue work done early in World War II was recognized by Governor Thomas E. Dewey. Guidance and advice was sought from persons prominent in firemen's organizations. In a special message to Legislature, the Governor asked for the creation of a Division of Safety in the Executive Department. The Legislature created this Division, establishing within it the Bureau of Fire Mobilization and Control. The act authorized the Governor to appoint an advisory board to assist the Director of the Division and the Chief of the Bureau in the formation of policies and programs. This board was to include representatives of firemen's organizations. Mr. Thomas W. Ryan is Director of Safety and Mr. B. Richter Townsend is Chief of the Bureau.

In his address of welcome to members of the State Fire Advisory Board, Governor Dewey said:

"We are fortunate in having a great army of willing fire fighters. Many of them are professionals, having dedicated their lives to this work. But by far the greater number are volunteers, the good citizens in the smaller communities, who also have dedicated themselves, without compensation, to the service of their neighbors and their state. I want the representatives of the Division of Safety to be the friends and counselors of our volunteer firemen and not to attempt to be their directors or their bosses."

COUNTY fire advisory boards have been created in each of the counties participating in the program, composed of members of the local fire service and others associated with it. Among the key persons in the Bureau's program is the county fire coordinator administering the program in each county in cooperation with a county fire advisory board. He works with local fire chiefs in the organization of training courses, se-

lecting locations most convenient and best equipped for training courses. The county fire coordinator also has general supervision of his county's mutual aid plan and arrangements for inter-county mutual aid.

Because the county fire advisory boards and county fire coordinators are the keystone of the fire training program, the Division of Safety successfully sponsored legislation giving them legal status as county officers. These officers are appointed by the county boards of supervisors.

County fire instructors are selected by these county fire advisory boards. The instructor must adjust the courses to fit local requirements. The fire training program covers both the theory and practical phases of firemanship. The county instructors follow a detailed outline of instruction in the form of lesson plans, based on the most progressive instructional practices available.

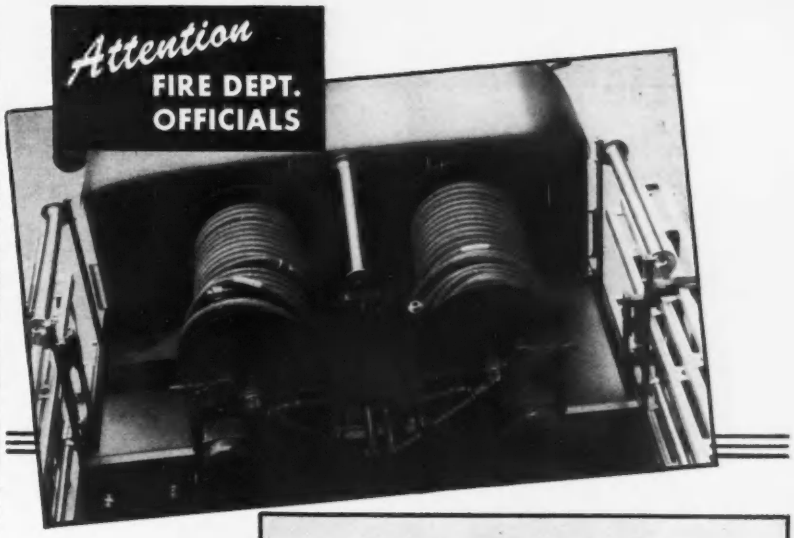
The Division conducts an annual "County Fire Instructors Conference" to provide current technical information and new instructional techniques. Discussion leaders at these conferences have been national leaders in firemanship subjects. In addition, the Division of Safety conducts regional conferences for county fire instructors. For administrative purposes the state has been divided into five regions with a "Safety Field Representative" working full-time in each region.

REVISIONS are made in the program from time to time to keep it up to date. A *Guide to the Fire Training Program*, a complete handbook, is being prepared for distribution to county instructors, coordinators, and advisory boards. *Fire Service Memorandums* on various fire subjects are distributed twice monthly to all fire chiefs in the state as well as to county coordinators. A semi-monthly publication of the Bureau of Fire Mobilization and Control, *The Siren* is distributed widely to county advisory board, instructors, coordinators, state and national publications and fire service organizations. A safety training aids library is maintained by the Division and fire training films are available for distribution from Bureau offices.

The Bureau is very active in the New York State civil defense program in cooperation with the Civil Defense Commission under General Lucius D. Clay.

Plans for the coming year include: Publication of the handbook *Guide to*

(Continued on page 25)



It's the New

Seagrave Fire Truck equipped with the New Hannay Hose Reels.

HANNAY HOSE REEL

WATER-RESISTANT
VAPOR-RESISTANT
EXPLOSION-PROOF

New models for fire trucks and airport crash trucks are especially designed with extra strong construction to withstand high pressures and the motor is protected against fog, foam, water and fumes. Developed to overcome the danger factors previously associated with electrical rewinds, the Hannay Reel has been PROVEN SAFE and efficient in exacting factory and field service tests. Explosion-proof, heavy duty motor with permanently lubricated bearings is Underwriters Approved Class 1, Group D, and is an integral part of the reel; needs no attention.

- ★ Can be connected through conduit, for sealed, safe installation.
- ★ Sealed push button control; "push" to start; "release" to stop.
- ★ Quiet, positive sprocket and chain drive; no gears to shift; no clutch to engage.
- ★ Safe rewind speed, always under control.
- ★ Smartly designed, compact, durable, dependable.
- ★ Simplicity of construction and operation reduces maintenance costs to a minimum.

ASK YOUR SUPPLIER
or write direct for
full information.

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, INC.
WESTERLO, NEW YORK

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HIGH POWER PORTALITE

The finest dry battery portable light made. Mile range. Powerful searchlight beam for 8 to 10 continuous hours. Instantly ready for any fire. Diameter 6". Size 14" high x 10" x 6". Only 9 lbs.

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192 Lexington, New York 16, N. Y.
Corner 32nd Street: Phone MU 6-0828
Write for Fire Dept. catalog H-60

MSA "Pneolator" Designed to Aid Resuscitation

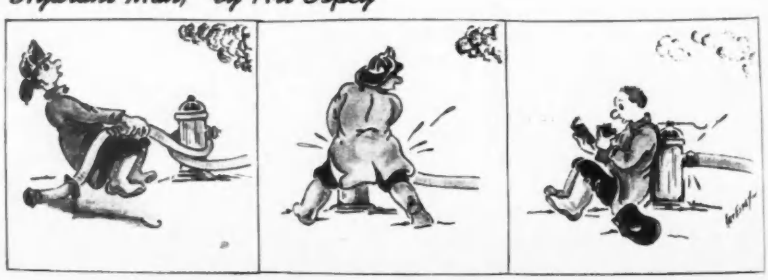
A NEW type of automatic equipment for resuscitation has been developed by the Mine Safety Appliances Company, Pittsburgh, Pennsylvania. The device, named the "Pneolator" is designed to aid victims of smoke, drowning, electric shock, poisonous or suffocating gases, heart attacks, overdoses of drugs, and other cases of asphyxiation. It is designed to serve as an inhalator to assist patients who are still breathing and to provide automatic respiration for persons who have stopped breathing. If the patient is breathing, the inhalator demand valve automatically admits as much oxygen as the patient can inhale. The valve stops on exhalation until he again inhales. The artificial respiration valve delivers oxygen at a pre-set pressure to the lungs of a victim whose breathing has stopped. The manufacturer states that when the proper amount of oxygen has been admitted into the lungs, the valve shuts off and allows the lungs and diaphram muscles to perform natural exhalation.

The Pneolator consists of a rubber and plastic facepiece connected to the two valves by two four-foot lengths of corrugated rubber tubing. One of the valves administers oxygen with positive pressure at regular intervals, cycling automatically. The other valve lets oxygen flow only when the patient inhales and stops the flow on exhalation.

The pressure of oxygen administered by the cycling valve can be varied. The pressure regulating valve is calibrated to show pressures in terms of centimeters of water. Pressure can be adjusted so that the apparatus can be used on newborn infants or on adults.

The manufacturer states that the instrument can be operated by anyone with first aid training after a short course of instruction. The unit is packed, ready to use, in a strong fiberglass carrying case. In the case is a tank containing 22-cubic feet of oxygen, approximately enough for a half-hour's use. The main valve connections are arranged to permit attachment of additional oxygen supply from any outside source without disconnecting the regular tank. The entire assembly, with case, weighs approximately 41 pounds.

"Hydrant Man," by Art Espey



CAIRNS

THE "STERLING" MARK IN HELMETS

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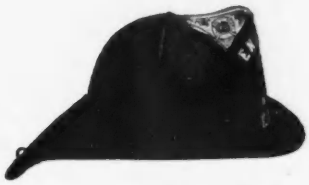
REGULATION MODELS



No. 5A — "NEW YORKER"
(Leather)

No other helmet made has ever shown the rugged stand-up-ability of this "pioneer" of all "regulation" helmets — which explains why it is first choice in the largest departments, where the duty is hardest.

No. 350 — "SENATOR"
(Aluminum)

Where the preference is for aluminum, here is a rugged one-piece "regulation" helmet that is light, durable, safe and comfortable — and largely used by both regulars and volunteers, the country over.

No. 900 — "CLIFTON"
(Flint-Flex)

"Regulation" in every line, this latest Cairns Helmet is made of "Flint-Flex" — a light, tough, flexible material that gives complete protection against impact, heat, electric current and chemicals.

DROP-BRIM MODELS

No. 550 — SEAMLESS
(Leather)

A drop-brim style with seamless crown. Applied ribs have steel reinforcement. A tough, long-wearing leather helmet at lower cost.

No. 700 — STREAMLINER
(Aluminum)

A feather-weight helmet with specially formed crown giving solid support to the front piece. The drop brim gives extra protection for eyes, ears and back of neck.

No. 720 — COMMANDO
(Flint-Flex)

A utility model of CAIRNS Flint-Flex plastic. Safe and durable, with close-fitting front piece and new "snap-in" lining which makes installation or removal of the complete lining assembly a matter of seconds.

All Models Have CAIRNS Cushion Lining

Write for Catalog 330 showing everything a fireman needs for his personal equipment — together with Department Record Books, Secretary's Books, and printed forms.

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CAIRNS & BROTHER, INC.

OUTFITTERS TO FIREMEN SINCE 1836

854 Bloomfield Ave., Allwood, Clifton, N. J.

The "LIFE-GUARD LINE" of

FIRE HELMETS

Metcalf
UNIFORM
FABRICS
Standard fabrics for over eighty years

SPECIFY
386
STANDARD SERGES 12 TO 18 OZ.
STANDARD TROPICALS FOR SHIRTS
IN PREMIER 386 QUALITY.

ALSO
BEAVERS IN 20 AND 30 OZ. WEIGHTS

USED BY FIRE DEPARTMENTS
OF LEADING CITIES

Sample Brochure Upon Request

METCALF BROS. & CO.
45 EAST 17TH STREET
NEW YORK CITY

FOR UNIFORM SATISFACTION

Don't Gamble with Fire

— The Odds Are Against You!

FIRE departments and other members of the fire service have another opportunity to improve their public relations with newspapers and business concerns in their community.

The above slogan is the theme of a new fire prevention campaign sponsored by the National Fire Protection Association in cooperation with the Advertising Council. Since the promotion of this campaign will be through newspapers and house organs, a number of newspaper advertising mats have been designed and will be distributed without charge. These mats carry the campaign slogan, a picture or drawing of some type of fire loss with a message of how it could have been averted, and a space for the advertising sponsor's name.

Fire departments can exercise good public relations in their community by contacting the local newspapers and business concerns and inviting their cooperation in this campaign. The advertising mats are of various sizes and can be adapted to the newspaper's or advertiser's needs.

There has been an excellent response in the initial stage of the campaign. The slogan and the ideas suggested by the cuts will be useful for stationery, posters, and other publications which fire departments use during their fire prevention campaigns.

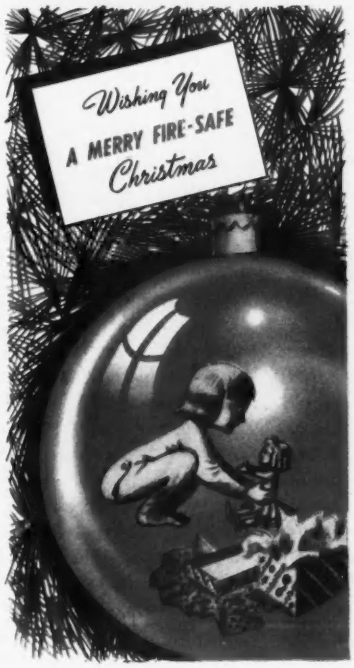
This free material or any additional information may be obtained by writing to the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts, or to the Advertising Council, 25 West 45th Street, New York 19, New York.

FIRE TRUCK FOR SALE

Ideal For Rural Service

4-wheel drive white chassis with Champion front-mount 2-stage high pressure pump, 400-gallon booster tank, high pressure hose, reel, fog gun, ladders, suction hose, etc. Very reasonable. Write for details, price and photograph.

HARTVILLE VOL. FIRE DEPT., INC.
HARTVILLE, OHIO



THE Christmas holiday season that ushers out the old year for the fire fighter is an annual paradox. During those few days which we treasure as a period of reverence, good cheer, and neighborliness, fire may sear someone's moments of merriment with death, pain, or destruction.

Yet, if we exercise a little care, a great deal of tragedy can be averted. A little caution in disposing of flammable wrappings, the careful placing of the tree and holly branches, an extra effort to replace worn electric cords, a pause before lighting a match or candle, a little judgment in the selection of toys for the youngsters — each of these can mean that a life is saved.

This year, to emphasize these suggestions for cautious practices, the NFPA has produced the new Christmas fire prevention folder shown above. Fire departments or any public-spirited company can use this folder to express their Christmas greetings and help prevent the holidays from being darkened by the tragedy of fire. The back cover of the folder has been left blank for the imprinting of any message of local import.

Copies of this folder, G 24-A, may be obtained from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts. Cost is only $2.00 per hundred, $17.50 per thousand, with attractive discounts for greater quantities purchased.

OIL BLAZE
HOW SCOTT AIR-PAK SAVED THE DAY!
DREAD OF ALL FIREMEN IS FIRE AT AN OIL REFINERY, OR CHEMICAL PLANT.
LOOKS TOUGH JIM. WE'VE GOT TO GET IN THERE...AND FAST!
SCOTT AIR-PAKS ENABLE WET WATER FOG TO BE "DELIVERED" RIGHT ON THE BLAZE.
THOSE MEN ARE REALLY GETTING IN. THEY'RE KNOCKING IT DOWN ALREADY.
PROTECTED BY SCOTT AIR-PAKS, WORKING IN COMPARATIVE SAFETY, FIREMEN QUICKLY CONTROL AND EXTINGUISH WITH A MINIMUM LOSS.
BY GOLLY, THE COMBINATION OF WET WATER FOG AND AIR-PAKS SURE GOT RID OF THAT ONE IN A HURRY!

Supplying fresh, cool air — not oxygen, Scott *Air-Pak* provides complete breathing protection, even in petroleum atmospheres where the use of oxygen is an added hazard.

Scott *Air-Pak*, made in several sizes and types, enables industrial and municipal firemen to fight fires quickly and safely *at the source*, minimizing fire damage. Thousands of Departments are setting enviable records for life and property conservation — with Scott *Air-Pak*.

Scott Senior Sling Pak (above) — extra light and small, for short duration uses.

Write today
for full details on the Scott Air-Pak in Bulletin No. 510.

ESTABLISHED IN 1932
Scott
FOR SAFETY—FOR SERVICE

Have you seen the new Scott DEMAND Inhalator?

SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.
236 ERIE ST. LANCASTER, N. Y.
CANADA: SAFETY SUPPLY CO. BRANCHES IN ALL PRINCIPAL CITIES
EXPORT: SOUTHERN OXYGEN CO., 157 Chamber St., New York 7, N.Y.

If you're interested in sinking ducks (*or* putting out fires) it's high time you knew about FIREWATER.* This amazing chemical penetrant makes wet-water for 600% (that's right — six hundred per cent!) *less money than any other recognized penetrant on the market!* It's unbelievable but true — FIREWATER is a *tested* and *proved* penetrant that is used at a dilution ratio of 1:600 yet costs just $2.00 per gallon in 55 gallon drums! FIREWATER vastly increases the absorption and spreading qualities of water and is absolutely non-corrosive. *Trade Mark

MAKE YOUR OWN PROPORTIONERS! Write us — we'll supply you with schematic diagrams, free of charge!

THE

FIREWATER

COMPANY

MANUFACTURERS

Russ Building • San Francisco, California

Fire Department Instructors Conference at Memphis, Jan. 9-12, 1951

THE twenty-third annual Fire Department Instructors Conference will be held at Memphis, Tennessee, beginning Tuesday, January 9, 1951, and continuing through Friday, January 12. It will be conducted under the sponsorship of the Western Actuarial Bureau and the Memphis Fire Department. Chairman for the conference will be Richard E. Vernor, Chairman of the Board of Directors of the National Fire Protection Association and Manager of the Fire Prevention Department of the Western Actuarial Bureau of Chicago, Illinois.

This is one of the most important of the conferences held in the interest of the fire service. Fire chiefs, drill masters, fire prevention authorities, and many others concerned with the fire service, attend this annual meeting for the valuable, authoritative discussions of the latest trends and developments in the fire service.

Reservation forms and additional information on this conference may be obtained by writing to Harry H. Wolff, Conference Secretary, P.O. Box 1089, Chicago, Illinois.

Pump Pressure for Wyed Lines

(*Continued from page 7*)

was raised to 75 pounds at the inline gage with the nozzles opened at 225°. The pump pressure was observed and found to be approximately 100 pounds. Then setting the nozzle heads at 146° open, which was the straight stream setting, again the inline gages and the pump discharge gage showed an increased pressure of approximately one pound over that shown at the fog setting.

It was decided that the friction loss in the 100 ft. of 1½-in. hose with an adjustable fog head flowing at 75 pounds when set in fog position was 25 pounds per 100 ft. of 1½-in. hose. Since there was only a pound difference between the fog and straight stream pressures, it was agreed that 25 pounds friction loss could be figured per 100 ft. of 1½-in. hose at either the fog or straight stream setting.

(*Editor's note:* The fog nozzles discussed here are those giving a discharge in excess of 80 gpm or nearly the equivalent of a ⅝-in. straight stream nozzle at conventional pressures. Some fog nozzles for 1½-in. hose give less discharge and are comparable to ½-in. solid streams. These streams would cause less friction loss than the figures cited here.)

WITH this information the engineer or pump operator knows that 100 pounds at the pump will give 75 pounds nozzle pressure in a layout of wyed 1½-in. hose having 100 ft. in each line with the wye attached to the pump discharge if the fog heads are adjusted as marked for the fog setting. It is suggested that a peg or a pin lug be attached to the nozzle barrel at the 0° setting and one on the adjustable head at the fog setting so that the nozzle man can adjust the nozzle properly for the fog setting by touch.

The next problem was to determine the friction loss per 100 ft. in the 2½-in. hose feeding the wye. The table shows the observed readings with 100 to 1000 ft. of 2½-in. hose. After checking and rechecking it was decided that a 6-pound average could be used for the 2½-in. hose. Therefore, when using a layout that has 100 ft. of wyed 1½-in. hose from a 2½-in. feeder line, with nozzles of the peripheral jet type and ratings, the engineer or pump operator can determine the pump discharge pressure by multiplying the length of the 2½-in. line in hundreds by six and then adding 100 pounds.

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HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary, and Piston Pumps supplied
HOWE FIRE APPARATUS COMPANY, 1406 West 22nd Street, Anderson, Indiana

Insular Fire Service of Puerto Rico

(*Continued from page 10*)

been able to provide a degree of protection to the entire island including several sizeable cities. They man 47 automobile pumpers not including those of the volunteer departments at Ponce and Mayagüez. Of these, 26 are OCD skid pumps originally without water tanks for small lines and lacking automatic relief valves. Three stations still have hand drawn apparatus. There is a fireboat at San Juan equipped with 4 OCD pumps. There is an 85 ft. Seagrave aerial and a 2000 gallon tank truck at the San Juan headquarters.

The fire force is divided into nine districts each headed by a district chief who is on duty daytimes and sleeps at home at night. As the entire organization is under the command of one chief supporting equipment can be called for major fires regardless of municipal boundaries. For example, San Juan (population 229,000) with 83 fire fighters and 13 pieces of equipment in seven stations (including fireboat and airport crash trucks) can draw upon 4 other stations within 15 miles. Mayagüez (63,000 population) with 30 men and 6 trucks can call upon four outside stations in nearby suburbs, in addition to its local volunteer fire department.

●

New York Training

(*Continued from page 19*)

the Fire Training Program; the accrediting of all county fire instructors by attendance at regional conferences; exploration of the need for a Fire Chief's Institute; publication of a *Student Firemen's Workbook* for use in all three firemen training courses now available; publication of a new series of lesson plans for county fire instructors; enlargement of the safety training aids library; starting of the auxiliary fire training program in connection with civil defense; and provision of a special instructional unit entitled "The Fireman and Civil Defense."

FOR SALE

American-LaFrance 1000 gallon pumper. Engine overhauled and all-bronze pump rebuilt this year. Good paint and pneumatic tires. Must be inspected to be appreciated.

Weldon Fire Company
421 N. Easton Road
Glenside Pennsylvania

Dependable FIRE PROTECTION...

STARTS WITH ANSUL water-tight CONSTRUCTION

CUTAWAY VIEW, ANSUL MODEL 20-B

The new, improved Ansul Model "B" Extinguishers have the greatest fire-killing ratings* ever attained by hand portable fire extinguishers. In addition, WATER-TIGHT CONSTRUCTION, (exclusive with ANSUL) has resulted in far greater dependability than any other dry chemical extinguisher.

In fire protection equipment, the best is none too good. Accordingly, Ansul engineers conduct continuing research for improving Ansul Extinguishers and Dry Chemical. Ansul Quality has set a high standard for newcomers in the dry chemical fire extinguisher field. This unparalleled standard of quality is constantly being raised by Ansul research and development.

Send for File No. 603. You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes — from the small Ansul Model 4 to Ansul Piped Systems and Ansul 2000 lb. Stationary Units.

**Factory Mutual Laboratory Reports of Examinations and Tests.*

Exclusive Features

- Patented Nozzle assures most effective stream pattern . . . Best results by inexperienced operators.
- Special packings in Nozzle and other parts exclude water.
- Corrosion resistant construction throughout.
- Easy on-the-spot Recharging (No tools needed).
- Quick, *positive* puncture operation.
- Special cartridge guard protects cartridge . . . rugged construction throughout.
- Ansul *"PLUS-FIFTY"* Dry Chemical used exclusively.
- Field tested by thousands of satisfied customers.

ANSUL
CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION
MARINETTE • WISCONSIN
DISTRIBUTORS
IN ALL PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

THIS TRADE MARK ASSURES YOU OF QUALITY PRODUCTS

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Fullerton, Calif.	March	15
Pasadena, Calif.	May	11
Paducah, Ky.	May	22
Union City, N. J.	April	7
Fire Station, Collegeville, Pa.	Dec.	12
Garage, Chicago, Ill.	May	11
Grain elevator, Portland, N. D.	May	22
Grain mill, Pocatello, Idaho	Jan.	15
Hospitals:		
Cape Breton, Nova Scotia	June	17
Davenport, Iowa	March	14
Nicolette, W. Va.	June	17
Wards Island, N. Y.	June	17
Hotels:		
Bangor, Maine	June	12
Glens Falls, N. Y.	April	7
Spokane, Wash.	May	11
Housing, Oklahoma City, Okla.	April	7
Lumber yard, Vacaville, Calif.	June	12
Lumber yard, Wilmington, Del.	June	12
Lumber building, Toledo, Ohio	June	12
Mills:		
Corinna, Maine	May	11
San Antonio, Texas	April	7
Monastery, North Cumberland, R. I.	June	17
Munitions Explosion, South Amboy, N. J.	July	12
Night Club, Boston, Mass.	Aug.	13
Orphans' home, Atchinson, Kan.	April	7
Printing concern, New York, N. Y.	July	12
Railroad, New York, N. Y.	July	12
Restaurant, Troy, N. Y.	May	22
Rubber plant, Indianapolis, Ind.	July	12
Schools:		
Big Rapids, Mich.	May	11
Cincinnati, Ohio	Aug.	11
Colorado Springs, Colo.	May	11
The Dalles, Ore.	Feb.	14
Rock Island, Ill.	March	15
Ship. *Hawaiian Rancher*, Alameda, Calif.	Jan.	15
Steel factory, Tilbury, Ontario	Aug.	11
Stores:		
Albany, N. Y.	April	4
Cleveland, Ohio	March	15
Dallas, Texas	March	15
Dayton, Ohio	March	15
Easton, Md.	Nov.	16
Winston-Salem, N. C.	March	15
Tobacco plant, Cincinnati, Ohio	Aug.	11
Trolley-tank truck, Chicago, Ill.	July	12
U. S. Post Office, Washington, D. C.	Jan.	13
Warehouses:		
Boston, Mass.	May	22
Hamtramck, Mich.	April	7
Hamtramck, Mich.	May	11
North Hood, Texas	June	12
Santa Barbara, Calif.	April	7
Stoughton, Mass.	March	15
Fire alarm system in Manila	April	15
Fire alarm station, Bethlehem, Pa.	March	13
Fire departments:		
Abingdon, Ill.	July	14
Accoceek, Md.	Jan.	23
Alexandria, Va.	May	23
Antelope Valley, Calif.	July	24
Arlington, Va.	Sept.	19
Atlantic, Iowa	Sept.	9
Bar Harbor, Maine	June	11
Barlow Township, Ohio	June	9
Bolton, Mass.	April	16
Brooklyn Center, Minn.	June	11
Buckley, Wash.	July	14
Camarillo, Calif.	Sept.	19
Choteau, Mont.	June	11
Cincinnati, Ohio	June	10
Clearfield, Pa.	Sept.	19
Dunbar, W. Va.	June	11
East Orange, N. J.	Oct.	15
Edmonton, Alberta	Oct.	14
Galena, Kan.	July	15
Grayslake, Ill.	Dec.	13
Hackettstown, N. J.	June	18
Hingham, Mass.	Sept.	15
Houston, Texas	July	14
Kent County, England	Jan.	12
Lakeville, Ind.	July	14
Lewiston, Maine	April	16
Log Cabin Arbor, Ill.	May	23
Lordsburg, N. M.	Dec.	13
LAFD Squad Company 23, Calif.	July	24
Lost Acres, Conn.	Dec.	13
Lubec, Maine	March	30
Lynnfield, Mass.	July	14
Mack, Ohio	Jan.	9
Minneapolis, Minn.	Aug.	13
Mt. Rainier, Md.	Dec.	15
New Denver, B. C.	Sept.	19
Northeast Harbor, Maine	Aug.	13
North Muskegon, Mich.	March	20
Orchard Beach, Md.	June	25
Oxford, N. Y.	Jan.	14
Palmyra, N. J.	April	16
Pasadena, Calif.	Oct.	14
Philadelphia, Pa.	July	10
Polo, Ill.	Aug.	13
Providence, R. I.	Nov.	11
Quemont Brigade, Noranda, Que.	Aug.	13
Rosenburg, Texas	Aug.	21
Taos, N. M.	Oct.	14
Visalia, Ill.	Jan.	10
Warren Air Force Base, Wyo.	June	14
Warwick, R. I.	Sept.	12
Winthrop Harbor, Ill.	Jan.	20
Yellowknife, Can.	June	11
Firemen go to the schools	Feb.	12
Fire problems at state level	Aug.	6
Fire protection, Dover, Del.	Sept.	12
Fire protection in Montana	Jan.	7
Fire safeguards for farm	Jan.	24
False alarm detector	Feb.	21
Fire service is big business	Aug.	8
Fire schools:		
Dayton opens new school	Oct.	11
Delehanty Institute	May	21
Florida fire college	Dec.	6
Iowa State College	July	25
New Haven, Conn.	Dec.	8
New York University	Sept.	27
Officer training	March	32
Oregon program gets insurance credits	Jan.	24
Pennsylvania permanent school	Oct.	12
Purdue sixth seminar	March	33
U.S.C. professional course	Sept.	13
IAFC Conference in San Francisco	Sept.	14
Insular fire service of Puerto Rico	Dec.	10
Insurance awards to Connecticut volunteers	Oct.	11
Little drops of water	Feb.	6
Ladder rescue with Pompier	Jan.	13
Los Angeles manifold companies	June	8
Making a good job of it:		
Estimating GPM	June	20
Quick formula for friction loss and pump pressures	April	14
Quick formula for friction loss and pump pressures	May	10
Effective use of spray or fog	July	16
Care of aluminum ladders	July	13
Super markets and suburban shopping centers	March	16
Directing hose streams	May	7
Manila has new fire alarm system	April	15
Mutual aid in Alaska	Feb.	10
Minneapolis fire conference	Aug.	20
Mutual aid in Clackamas County, Ore.	June	26
Nebraska's rural fire protection pays	Oct.	7
NFPA annual meeting	July	9
NFPA inspection manual	Nov.	24
New York bureau of fire	Dec.	18
Ohio fire conference	Aug.	16
Ohio looks at fire training	May	8
Ohio chiefs produce movie on hose evolutions	April	20
Philadelphia bureau of fire	July	10
Philadelphia displays equipment	Dec.	11
Piston type pumper available	March	30
Protection from atomic explosion	April	18
Puerto Rico fire service	Dec.	10
Pump pressure for wyed lines	Dec.	7
Rope substitute for fire escape proves fatal	Jan.	20
Red Cross meets challenge of fire	July	8
Role of Chamber of Commerce in fire prevention	Jan.	8
Reduction of smoke damage	April 10, May	12
Rope, comparative strength of jute and manila	April	26
Retirements announced by NBFU	Feb.	22
Report on tornado in Great Britain	Oct.	22
Restaurant chain fetes Kansas City firemen	June	14
Radio fire service in Maryland	Feb.	18
Virginia	March	12
Delaware and Virginia	June	16
Prince Georges County	June	16
Readers Comments:		
Fog and ladders	Sept.	22
Rhode Island firemens league	Nov.	20
Self inspection form for industrial plants	Jan.	11
Squad cars for district fire chiefs	June	12
Specifications for automobile fire apparatus	Sept.	15
State and provincial training	Nov.	12
Training reports:		
Pennsylvania, 1950	Dec.	11
State and provincial, 1950	Nov.	12
Training films, L.A.F.D.	Nov.	19
US Treasury frowns on tax exemptions	March	22
U.S.C. professional course for firemen	Sept.	13
U.S. post office fire, Washington, D. C.	Jan.	13
Value of photo and chemical laboratories	Aug.	14
Volunteer fire department publishes map	Oct.	15
Volunteer company publishes lively bulletin	Oct.	15
Volunteer firemen honor George Washton	Jan.	18
Water shortage may bring added fire danger	Jan.	23
When the fire is out	March	8
Yesterday's fire fighters	Jan.	10

Entire 3rd Floor cleared of smoke and hot gases immediately permitting firemen to advance into building with handlines in one minute-Fire under control within 5 minutes

A front page newspaper story of a recent fire told of a remarkable job of extinguishing a two alarm fire in a 3 story building by the New Haven Fire Department.

A huge 500 gpm Rockwood WaterFOG Nozzle, utilizing a new type of attack from an aerial ladder, played an important role in putting out this fire. Here, in his own words, are the facts which we were able to obtain directly from Chief Paul P. Heinz of the New Haven Fire Department.

"Attached is a photograph of a recent fire in our city. The Rockwood 500 gpm fog nozzle did an excellent job operating from our aerial ladder.

"The fire originated on the 2nd floor of a 3 story building and extended to the 3rd floor by means of an inside stairway and elevator shaft. The alarm was received at 6:25 P. M. on June 26, 1950 and when the first company arrived, heavy smoke and gases were being forced through the windows on the 3rd floor, front. Hand lines were ordered on the 2nd floor and in the rear but firemen were unable to advance due to extreme heat. A second alarm was transmitted at 6:30 P. M. At 6:35 P. M., the 500 gpm fog nozzle went into operation from our aerial ladder and in less than a minute the entire 3rd floor area was blackened out. The hand lines on the 2nd floor began to advance into the building and within 5 minutes the fire was under control.

"From my observations the big fog nozzle did accomplish two purposes. (1) it cleared the 3rd floor area of smoke and hot gases immediately and (2) the water particles were forced down the elevator shaft and inside stairway, cooling off the floor areas making it possible for the firemen to advance their lines. Our operating pressures at the nozzle was 150 lbs.

"This particular fire, like others we have had in the past, convinces us, more than ever before that broken water will do an excellent job on most any type of fire where the solid stream was considered effective."

Our bulletin B-500 describing the 500 gpm Rockwood WaterFOG Nozzle for use on ladder pipes or deluge guns will be sent to you upon request.

ROCKWOOD

Portable Fire Protection Division

ROCKWOOD SPRINKLER COMPANY

88 HARLOW STREET WORCESTER 5, MASSACHUSETTS

"Even BETTER than we Expected!"

says Chief R. J. Lindsay of his New

MACK Aerial LADDER

Mack 65-foot aerial ladder truck recently delivered to Union Fire Association of Lower Merion, Bala-Cynwyd, Pa.

"You can be sure we did a lot of looking before we ordered our new aerial ladder truck. We wanted an all-around combination of performance, strength and dependability -- and that's why our choice finally fell to Mack.

But when we took delivery of our new Mack aerial, we found that it performs even better than we expected! The ladder can be extended or retracted smoothly and quickly at any angle. It is the strongest ladder I have ever seen. And it is so simple to operate and so jam-proof, our men have learned to operate it with practically no effort.

Moreover, the whole apparatus is a beauty. It is compact and easy to maneuver. You can see from the most casual inspection that it is built ruggedly and with fine workmanship. We certainly are proud of our new Mack aerial!"

Sincerely,

Chief R. J. Lindsay

Chief R. J. Lindsay

UNION FIRE ASSOCIATION OF LOWER MERION, BALA-CYNWYD, PA.

Chief Lindsay's experience equals the findings of the other chiefs who have put Mack all-steel, all-hydraulic aerials into service. Before ordering your next aerial ladder truck, be sure to learn why Mack aerials out-perform, outlast them all.

Be Performance-Wise

Modernize with

Mack

FIRE APPARATUS

MACK MANUFACTURING CORPORATION
Fire Apparatus Division
Long Island City 1, New York

Outlasts Them All

Factory branches and distributors for service and parts in all principal cities. In Canada: Mack Trucks of Canada, Ltd.

TRIPLE COMBINATION PUMPERS—500 TO 1500 GPM... SQUAD AND HOSE WAGONS... AERIAL, CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS